

Application No.: 09/993,546
Amendment Dated: September 29, 2003
Reply to Office Action of: July 18, 2003

REMARKS

These remarks follow the order of the outstanding Office Action beginning at page two thereof. Reconsideration of the rejection is respectfully requested in view of the following remarks.

Amendments in the Claims

Claims 1 and 2 have been amended to reflect that the acrylic solvent cohesive layer is the parting agent. As pointed out in the specification, the transplant sheet (5) has the short fiber layer (4) provisionally bonded on a base sheet with an acrylic solvent layer (3). The parting layer is clearly the solvent cohesive layer (3). See page 7 of the specification, lines 7 - 13. Also, see page 9, top paragraph as previously amended where it is stated that the fiber is provisionally bonded to the base sheet (2) by a cohesive layer (3). The reason for the amendment in claims 1 and 2 is that the claims as previously presented appear to claim the parting agent and then further claim the acrylic solvent cohesive layer which is the same thing. Stated another way, claims 1 and 2 claim the same thing twice as previously worded.

In claim 5, Applicant has deleted the last three words because they are unnecessary. Also, "acrylic solvent adhesive layer" has been changed to "acrylic solvent cohesive layer" to correct a typographical error.

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Claim Rejections - 35 USC § 103

The rejection under 35 USC § 103 of claims 1 - 6 on the basis of Nomura '896 in view of Barehas '053 and further view of Torikoshi '904 is respectfully traversed for the reasons which follow. This rejection is respectfully traversed as follows:

Applicant's Claimed Transfer Sheet

Initially, Applicant requests the Examiner to consider claim 1 as a whole which is required by 35 USC § 103. Claim 1 is best understood by considering the claim elements as they are identified in Applicant's Figures 1 and 2. The following is a copy of claim 1 with reference numerals inserted and with the words "fixed" underlined:

1. A transfer sheet comprising:

a hair transplant sheet (5) having a base sheet (2), and an acrylic solvent cohesive layer (3) parting agent on which a fiber layer (4) is provisionally bonded via an acrylic solvent cohesive layer;

a toner image (6) fixed on the fiber layer (4) of the hair transplant sheet (5) by an electrophoto copying machine using a toner (6; Fig. 2B);

at least one acrylic ester resin binder layer (7) which is placed on the fiber layer (4) having the fixed toner image (6); and

a hot-melt adhesive layer (8) which is placed on the binder layer.

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Referring now to the drawings, Figure 2A shows the hair transplant sheet (5). This transplant sheet has the base sheet (2), short fiber layer (4) and the acrylic solvent cohesive layer (3) which acts as the parting agent. In Figure 2B there is shown the toner (6) applied to the transplant sheet (5).

Next, the claim requires a toner image fixed. This is described in the specification at page 7, at the bottom. It is well known in the electro-photocopying machine art that fixing of a copy machine image is the heating of the powder after it is transferred to a surface. This process is also known as the fusion process. This is why copies are always warm when they exit a copy machine. Fixing, as claimed, is well known as the fusion process. This heating is the creation of a toner image, such as the type taught by the Nomura '896 reference. Claim 1 goes on to state that the toner image is fixed on the short fiber layer of the transplant sheet (5).

Next, the claim requires an acrylic ester resin binder layer and the hot melt adhesive layer.

Referring now the Applicant's drawings. The structure set forth of claim 1 is found in Figures 2A - 2D. The placement of the toner image on the transplant sheet is shown in Figure 2B. This is where fixing occurs. Next, in Figure 2C there is shown the placement of a transparent binder layer which is a transparent acrylic ester resin binder placed on the short fiber (4) which has the fixed toner image (6). The final step in the process of

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creating the transfer sheet is shown in Figure 2D which is placement of a hot melt adhesive layer (8) on the transparent binder layer (7).

Figure 3A and Figure 3B shows the application of the transfer sheet to a receiver (10). Here the Examiner should note that the hair transplant sheet of Figure 2 has been turned upside down. Next, the Examiner should note that as shown in Figure 3B after the application of pressure and heat, the base sheet (2) and the acrylic solvent cohesive layer (3) are removed. As stated in the claim, the acrylic solvent cohesive layer (3) is a parting agent. This is where parting occurs, i.e. (3) parts from toner (6) and the fiber layer (4). The fiber layer (4) which has the claimed image fixed on it is, therefore, transferred to the receiver (10) as shown in Figure (3B). Stated another way, the fiber layer or hair-like portion is not removed from the receiver, but passes to the receiver because it is fused with the toner image because the toner image is fixed on the fiber layer as required in claim 1.

Also, as shown in Figure 3B, the hot melt adhesive (8) actually bonds the system including the toner (6) and the fibers (4) along with the transparent binder acrylic resin (7) to the receiver (10).

Nomura '896 shows a copy machine based image transfer system where a toner (13) is applied to a synthetic resin (12). Resin (12) rests on a support layer (11). During transfer, as shown in Figure 1, the support layer (11) is removed and the layers (12) and

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(13) are applied to a target body (15). As disclosed in '896, the layer (12) is a resin layer. There is no suggestion of the use of fibers or association with fibers or hair-like material with the layer (12). In '896, the image is created by the toner of an electrostatic process copying machine or electrostatic printer (see bottom of column 2, top of column 3). In the system of '896, the resin layer (12) binds the toner (13) directly to the target (15). There is no equivalent of Applicant's claimed acrylic resin layer which lies beneath the toner. Still further, there is no fiber which extends between the claimed acrylic resin layer and the toner as shown in Applicant's Figure 3B.

Barehas '503

'503 first differs fundamentally from Applicant's claimed invention in that the particles (23) or flocking fibers (33) do not transfer to the target. Instead, the flocking discussed at column 4, lines 39 - 60 stays with an adhesive (22) and a carrier layer (21).

The flocking (33) relied upon by the Examiner, is used to create the image. Creating is accomplished as described in column 3, beginning at line 5 and continuing through line 40. In this description, it relates to particles (23) which act exactly in the same manner as do the flocking materials or fibers (33). The particle or flocking (23/33) are used to hold a color pigment which fits into the voids between the flocking (33). The color pigment, however, is not fixed as in a Xerox fusion process. Instead, the

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color pigment is loose. The image is created as shown in Figures 1 and 6 where pressure is applied at point (27) (a character) which causes particles to transfer from layer (24) to the layer (26). However, transfer does not occur until such pressure is applied. Stated another way, as described at column 3, lines 15 to 20, the coloring pigment (24) is releasibly held to the carrier (21) between the valleys defined by the particles (23). It is under pressure that the adhesive back (26) of the covering layer (25) is forced into intimate contact with coloring layer (21) of the color carrier layer (20) in the area of intimate contact (see column 3, lines 29 - 32). When this occurs, the coloring pigment is released from the carrier layer and adheres to the adhesive backing (26) of the covering layer (25) to define a given image.

The above process would be impossible if the coloring layer is anything but particles. On the other hand, in Applicant's claimed invention, it is required that the image be fixed, not in a powder form. The fixing in Applicant's claim is by a toner fixed by an electro-photocopying machine. This fixing simply does not occur in '053, and would make '053 impossible because the particles which are loose between the flocking fibers (33) would no longer exist. Stated another way, the particles would be fused which is what fixing is in a photocopy process.

Next, in '053, when the image is created by transferring of some color pigment (24) to layer (23), the particles (23) are not transferred, therefore, the particles (23) or flocking (33) remain

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with the throw away portion of the transfer device. The flocking or fibers, therefore, are not part of the fiber layer as claimed. The claim states that a toner image is fixed on the short fiber layer of the hair transplant sheet by an electro-photocopy machine using a toner. This, of course, requires that the toner and the fiber layer be fused together. This does not happen in '053 where the fiber layer is for the purpose of holding the color pigment until it is transferred by pressure to the layer (26) as shown by application of pressure from a printing font (27) (see Figures 1 and 6 of '053).

The References in Combination

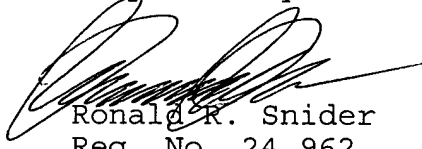
The references when taken in combination do not suggest a transfer sheet where the fiber layer is provisionally bonded to an acrylic solvent and then, by means of an acrylic solvent cohesive layer, parted from the base sheet and moved to the receiver as shown in Applicant's figures 3A and 3B. Stated another way, the references do not suggest movement of the fiber or flocking or anything that would relate to fibers and flocking to the receiver. Next, there is no acrylic solvent cohesive layer which acts as a parting agent for releasing a fiber layer to the receiver. Instead, in all instances ('053), the particles (23) or flocking (33) is permanently bonded by an adhesive (22) to a carrier layer (21).

For the foregoing reason, there is simply no suggestion in the combination of references of the claimed invention.

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In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action in accordance thereof is requested. In the event there is any reason why the application cannot be allowed in this current condition, it is respectfully requested that the Examiner contact the undersigned at the number listed below to resolve any problems by Interview or Examiner's Amendment.

Respectfully submitted,



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